**Please answer the following questions using Airline DB database.**

**Instruction to attempt questions:**

* Students need to write queries for the questions mentioned in the using Airline DB database
* Read the questions carefully before writing the query in **Airline Playground** (in the Playground chapter of SQL)
* Airline DB: [https://www.skillovilla.com/playground/sql?exerciseId=0181e251-6ea8-4595-ae2b-0c690119f8db](•%09https:/www.skillovilla.com/playground/sql?exerciseId=0181e251-6ea8-4595-ae2b-0c690119f8db)

**How to submit the capstone:**

* Copy the SQL query code and paste it in the answer section in this file.
* Once the assignment is done, submit the file over LMS.

**Invalid Submissions:**

* Pasting pictures of the code as answer is **NOT** acceptable.
* Uploading output data (CSVs) of the SQL queries is **NOT** acceptable.

**Write your answers(query) in the answer and submit it. To write the answer in the assignment, please follow the below example in yellow**

Example:

Questions*: Extract all the columns of the flights table*

Answer: *SELECT \* FROM flights*

**Attempt the following Questions-**

1. ***Represent the “book\_date” column in “yyyy-mmm-dd” format using Bookings table***

*Expected output: book\_ref, book\_date (in “yyyy-mmm-dd” format) , total amount*

**Answer:**

select

 book\_ref,

 to\_char(book\_date, 'YYYY-Mon-DD') as book\_date,

 total\_amount

 from bookings

1. **Get the following columns in the exact same sequence.**

Expected columns in the output: ticket\_no, boarding\_no, seat\_number, passenger\_id, passenger\_name.

**Answer:**

select

 BP.ticket\_no,

 BP.boarding\_no,

 BP.seat\_no as seat\_number,

 T.passenger\_id,

 T.passenger\_name

 from BOARDING\_PASSES as BP

 join TICKETS as T

 on T.ticket\_no = BP.ticket\_no

1. **Write a query to find the seat number which is least allocated among all the seats?**

**Answer:**

 select

    table1.seat\_no as least\_allocated\_seat

from

    (select

        seat\_no,

        rank() over(order by count(seat\_no)) as seat\_rank

    from

        boarding\_passes

    group

        by seat\_no) as table1

where seat\_rank= 1

limit 1

1. ***In the database, identify the month wise highest paying passenger name and passenger id.***

Expected output: Month\_name(“mmm-yy” format), passenger\_id, passenger\_name and total amount

**Answer:**

select

    table1.month\_name as Month\_name,

    table1.passenger\_id as Passenger\_id,

    table1.Passenger\_name as Passenger\_name,

    table1.amount as amount

from

    (select

        to\_char(book.book\_date,'Mon-yy') as month\_name,

        tic.passenger\_id as passenger\_id,

        tic.passenger\_name as passenger\_name,

        sum(book.total\_amount) as amount,

        rank() over(partition by to\_char(book.book\_date,'Mon-yy') order by sum(book.total\_amount) desc) as amount\_rank

    from

        bookings book join tickets tic

        on book.book\_ref = tic.book\_ref

        group by month\_name,passenger\_id,passenger\_name) as table1

where amount\_rank = 1

1. ***In the database, identify the month wise least paying passenger name and passenger id?***

Expected output: Month\_name(“mmm-yy” format), passenger\_id, passenger\_name and total amount

**Answer:**

select

    table1.month\_name as Month\_name,

    table1.passenger\_id as Passenger\_id,

    table1.Passenger\_name as Passenger\_name,

    table1.amount as total\_amount

from

    (select

        to\_char(book.book\_date,'Mon-yy') as month\_name,

        tic.passenger\_id as passenger\_id,

        tic.passenger\_name as passenger\_name,

        sum(book.total\_amount) as amount,

        rank() over(partition by to\_char(book.book\_date,'Mon-yy') order by sum(book.total\_amount) asc) as amount\_rank

    from

        bookings book join tickets tic

        on book.book\_ref = tic.book\_ref

        group by month\_name,passenger\_id,passenger\_name) as table1

where amount\_rank = 1

1. **Identify the travel details of non stop journeys or return journeys (having more than 1 flight).**

Expected Output: Passenger\_id, passenger\_name, ticket\_number and flight count.

**Answer:**

select

    T.passenger\_id as passenger\_id,

    T.passenger\_name as passenger\_name,

    T.ticket\_no as ticket\_number,

    count(TF.flight\_id) as flight\_count

from

    tickets T join ticket\_flights TF

    on T.ticket\_no = TF.ticket\_no

group by

     1,2,3

having

    count(T.ticket\_no) > 1

order by

     count(TF.flight\_id) desc

1. **How many tickets are there without boarding passes?**

Expected Output: just one number is required.

**Answer:**

select

(

    (select count(ticket\_no) from ticket\_flights)

    -

    (select count(ticket\_no) from boarding\_passes)

)

as without\_boarding\_passes

1. **Identify details of the longest flight (using flights table)?**

Expected Output: Flight number, departure airport, arrival airport, aircraft code and durations.

**Answer:**

select

flight\_no as Flight\_number,

departure\_airport,

arrival\_airport,

aircraft\_code,

(actual\_arrival - actual\_departure) as durations

from

FLIGHTS

where

    (actual\_arrival - actual\_departure) = (select

                                            max((actual\_arrival - actual\_departure))

                                            from

                                            FLIGHTS)

1. **Identify details of all the morning flights (morning means between 6AM to 11 AM, using flights table)?**

Expected output: flight\_id, flight\_number, scheduled\_departure, scheduled\_arrival and timings.

**Answer:**

select

     table1.\*

from

    (select

    flight\_id,

    flight\_no as flight\_number,

    scheduled\_departure,

    scheduled\_arrival,

    case

        when cast(to\_char(scheduled\_departure, 'HH24:MI') as TIME) between '6:00:00' and '11:00:00' then 'Morning\_Flight'

    else

        'other'

    end as timings

from

    FLIGHTS) as table1

where

    table1.timings = 'Morning\_Flight'

1. **Identify the earliest morning flight available from every airport.**

Expected output: flight\_id, flight\_number, scheduled\_departure, scheduled\_arrival, departure airport and timings.

**Answer:**

select

    table2.flight\_id,

    table2.flight\_no as flight\_number,

    table2.scheduled\_departure,

    table2.scheduled\_arrival,

    table2.departure\_airport,

    table2.timings

from

    (select

    table1.\*,

    rank() over(partition by departure\_airport order by scheduled\_departure asc) as rnk

    from(

        select flight\_id,

        flight\_no,

        scheduled\_departure,

        scheduled\_arrival,

        departure\_airport,

    case

        when cast(to\_char(scheduled\_departure, 'HH24:MI') as TIME) between '6:00:00' and '11:00:00' then 'Morning\_Flight'

    else

        'other'

    end as timings

    from

    FLIGHTS) as table1

where

    table1.timings = 'Morning\_Flight') as table2

where

     table2.rnk = 1

1. **Questions:** **Find list of airport codes in Europe/Moscow timezone**

Expected Output: Airport\_code.

**Answer:**

select

airport\_code

from AIRPORTS

where timezone like '%Europe/Moscow%'

1. **Write a query to get the count of seats in various fare condition for every aircraft code?**

Expected Outputs: Aircraft\_code, fare\_conditions ,seat count

**Answer:**

select

    aircraft\_code,

    fare\_conditions,

    count(seat\_no) as seat\_count

from

    SEATS

group

    by 1,2

order

    by 1 asc

1. **How many aircrafts codes have at least one Business class seats?**

Expected Output : Count of aircraft codes

**Answer:**

with cte as

(select

 aircraft\_code,

 fare\_conditions

 from

 SEATS

 group by

 aircraft\_code, fare\_conditions

 having

 count(seat\_no) >= 1 and fare\_conditions = 'Business'

)

select

count(\*) as aircraft\_code\_with\_atleast\_one\_business\_class

from cte

1. **Find out the name of the airport having maximum number of departure flight**

Expected Output : Airport\_name

**Answer:**

select

    table1.departure\_airport as Airport\_name

from

    (select

     departure\_airport,

     count(actual\_departure) as num\_of\_flights,

     rank() over(order by count(actual\_departure) desc) as count\_rank

     from

     FLIGHTS

     group by

     departure\_airport) as table1

where

    table1.count\_rank = 1

1. **Find out the name of the airport having least number of scheduled departure flights**

Expected Output : Airport\_name

**Answer:**

select

    table1.departure\_airport as Airport\_name

from

    (select

     departure\_airport,

     count(actual\_departure) as num\_of\_flights,

     rank() over(order by count(actual\_departure) asc) as count\_rank

     from

     FLIGHTS

     group by

     departure\_airport) as table1

where

    table1.count\_rank = 1

1. **How many flights from ‘DME’ airport don’t have actual departure?**

Expected Output : Flight Count

**Answer:**

select

count(flight\_id) as Flight\_count

from FLIGHTS

where departure\_airport like '%DME%' and actual\_departure is null

1. **Identify flight ids having range between 3000 to 6000**

Expected Output : Flight\_Number , aircraft\_code, ranges

**Answer:**

select

f.flight\_no as flight\_number,

a.aircraft\_code,

a.range

from FLIGHTS f

join AIRCRAFTS a

on a.aircraft\_code = f.aircraft\_code

where a.range between 3000 and 6000

group by 1,2

order by 3

1. **Write a query to get the count of flights flying between URS and KUF?**

Expected Output : Flight\_count

**Answer:**

select

count(flight\_id)

from FLIGHTS

where  departure\_airport ='URS' and arrival\_airport ='KUF'

1. **Write a query to get the count of flights flying from either from NOZ or KRR?**

Expected Output : Flight count

**Answer:**

select

count(flight\_id)

from FLIGHTS

where  departure\_airport IN ('NOZ', 'KRR')

1. **Write a query to get the count of flights flying from KZN,DME,NBC,NJC,GDX,SGC,VKO,ROV**

Expected Output : Departure airport ,count of flights flying from these airports.

**Answer:**

SELECT

departure\_airport,

COUNT(\*) AS flight\_count

FROM

FLIGHTS

WHERE

departure\_airport IN ('KZN', 'DME', 'NBC', 'NJC', 'GDX', 'SGC', 'VKO', 'ROV')

GROUP BY 1

1. **Write a query to extract flight details having range between 3000 and 6000 and flying from DME**

Expected Output :Flight\_no,aircraft\_code,range,departure\_airport

**Answer:**

select

f.flight\_no as flight\_number,

a.aircraft\_code,

a.range,

f.departure\_airport

from FLIGHTS f

join AIRCRAFTS a

on a.aircraft\_code = f.aircraft\_code

where a.range between 3000 and 6000 and f.departure\_airport ='DME'

group by 1,2,4

order by 3

1. **Find the list of flight ids which are using aircrafts from “Airbus” company and got cancelled or delayed**

Expected Output : Flight\_id,aircraft\_model

**Answer:**

SELECT

f.flight\_id,

a.model AS aircraft\_model

FROM

FLIGHTS f

JOIN

AIRCRAFTS a ON f.aircraft\_code = a.aircraft\_code

WHERE

a.model like '%Airbus%'

AND (f.status = 'Cancelled' OR f.status = 'Delayed')

1. **Find the list of flight ids which are using aircrafts from “Boeing” company and got cancelled or delayed**

Expected Output : Flight\_id,aircraft\_model

**Answer:**

SELECT

f.flight\_id,

a.model AS aircraft\_model

FROM

FLIGHTS f

JOIN

AIRCRAFTS a ON f.aircraft\_code = a.aircraft\_code

WHERE

a.model like '%Boeing%'

AND (f.status = 'Cancelled' OR f.status = 'Delayed')

1. **Which airport(name) has most cancelled flights (arriving)?**

Expected Output : Airport\_name

**Answer:**

select

table1.airport\_name

from

    (select

     (A.airport\_name) as airport\_name,

     F.status,

     count(A.airport\_name),

     rank() over (order by count(A.airport\_name) desc) as airport\_rank

     from

     AIRPORTS A join FLIGHTS F

     on F.arrival\_airport = A.airport\_code

     group by A.airport\_name,F.status

     having

     F.status = 'Cancelled')

     as table1

where

table1.airport\_rank = 1

1. ***Identify flight ids which are using “Airbus aircrafts”***

*Expected Output : Flight\_id,aircraft\_model*

**Answer:**

select

table1.flight\_id,

table1.model as aircraft\_model

from

    (select

     f.flight\_id,

     a.model

     from

     FLIGHTS f join AIRCRAFTS a

     on f.aircraft\_code = a.aircraft\_code

    )

    as table1

where

table1.model like '%Airbus%'

1. ***Identify date-wise last flight id flying from every airport?***

*Expected Output: Flight\_id,flight\_number,schedule\_departure,departure\_airport*

**Answer:**

select

table1.flight\_id as flight\_id,

table1.flight\_no as flight\_number,

table1.date as scheduled\_departure,

table1.departure\_airport

from

    (select

     flight\_id,

     flight\_no,

     departure\_airport,

     scheduled\_departure as date,

     rank() over (partition by departure\_airport,cast(scheduled\_departure as date)  order by scheduled\_departure desc) as rnk

     from

     FLIGHTS) as table1

where

table1.rnk = 1

order by

table1.date

1. ***Identify list of customers who will get the refund due to cancellation of the flights and how much amount they will get?***

*Expected Output : Passenger\_name,total\_refund.*

**Answer:**

with cte as

(

 select

 flight\_id,

 status

 from FLIGHTS

 where status='Cancelled'

),

subquery as

(

select

tf.ticket\_no,

tf.flight\_id,

sum(tf.amount) as total\_refund

from TICKET\_FLIGHTS tf

join cte

on cte.flight\_id=tf.flight\_id

group by 1,2

)

select

t.passenger\_name,

subquery.total\_refund

from TICKETS t

join subquery

on t.ticket\_no = subquery.ticket\_no

1. ***Identify date wise first cancelled flight id flying for every airport?***

*Expected Output : Flight\_id,flight\_number,schedule\_departure,departure\_airport*

**Answer:**

select

table1.flight\_id,

table1.flight\_no as flight\_number,

table1.dte as scheduled\_departure,

table1.departure\_airport as departure\_airport

from

    (

     select

        departure\_airport,

        flight\_id,

        flight\_no,

        scheduled\_departure as dte,

        rank() over (partition by departure\_airport,cast(scheduled\_departure as date)  order by scheduled\_departure) as rnk

     from

        flights

     where

        status = 'Cancelled'

    )

as table1

where

table1.rnk = 1

order by

table1.dte

1. ***Identify list of Airbus flight ids which got cancelled.***

*Expected Output : Flight\_id*

**Answer:**

SELECT f.flight\_id,

a.model AS aircraft\_model,

f.aircraft\_code,

f.status

FROM FLIGHTS f

INNER JOIN AIRCRAFTS a ON f.aircraft\_code = a.aircraft\_code

WHERE a.model LIKE '%Airbus%' AND f.status = 'Cancelled'

1. ***Identify list of flight ids having highest range.***

*Expected Output : Flight\_no, range*

**Answer:**

WITH max\_range\_aircraft AS

(

  SELECT aircraft\_code, range

  FROM AIRCRAFTS

  WHERE range = (SELECT MAX(range) FROM AIRCRAFTS)

)

SELECT

DISTINCT f.flight\_id,

flight\_no as flight\_number,

a.range

FROM FLIGHTS f

INNER JOIN

max\_range\_aircraft a

ON f.aircraft\_code = a.aircraft\_code